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Item 95 (e) of the provisional agenda*
General and complete disarmament

Effects of the use of armaments and ammunitions containing depleted uranium

Report of the Secretary-General

Summary

The present report contains the views of Member States and relevant international organizations on the effects of the use of armaments and ammunitions containing depleted uranium. The Secretary-General has, to date, received four reports from Governments, in addition to responses from the International Atomic Energy Agency and the United Nations Environment Programme.

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I. Introduction

1. The General Assembly, by paragraphs 2 and 7 of its resolution 65/55, invited Member States and relevant international organizations, particularly those that had not yet done so, to communicate to the Secretary-General their views on the effects of the use of armaments and ammunitions containing depleted uranium, and requested the Secretary-General to submit a report on that subject to the General Assembly at its sixty-seventh session.

2. On 8 March 2012, a note verbale was sent to Member States requesting them to submit their reports by 30 April 2012. The Office for Disarmament Affairs also submitted a similar request to the International Atomic Energy Agency (IAEA), the United Nations Environment Programme (UNEP) and the World Health Organization.

3. To date, the Secretary-General has received four replies from Governments, in addition to responses from IAEA and UNEP. The replies received are reproduced in section II below. Additional replies received from Member States will be issued as addenda to the present report.

II. Replies received from Governments

Colombia

[Original: Spanish]
[12 April 2012]

The military forces and the police force of Colombia, in the performance of their constitutional duties, do not develop, produce, import or use armaments and munitions containing depleted uranium.

In the context of international humanitarian legal standards, the use of armaments and munitions containing depleted uranium poses an imminent danger to the safety of human beings and their environment because of the toxicity and contamination that may result.

The use of depleted uranium may entail collateral damage to human health that is not measurable in the short term, and therefore States that produce and use armaments and munitions containing depleted uranium are urged to reflect on the consequences that using them has on the environment and the population and to mitigate their impact.

States are encouraged to take the steps indicated in United Nations General Assembly resolution 65/55 so as to comply with the recommendations of the International Atomic Energy Agency, the United Nations Environment Programme and the World Health Organization.

The law enforcement authorities of Colombia reaffirm their commitment to protect the population and the environment by prohibiting the use of this type of armament in conducting their operations.

Ethiopia

[Original: English]
[13 June 2012]

The Federal Democratic Republic of Ethiopia does not possess any weapons, armaments or ammunition containing depleted uranium.

Netherlands

[Original: English]
[19 June 2012]

The Netherlands voted in favour of General Assembly resolution 65/55, in which the Assembly requested the Secretary-General to seek the views of Member States and relevant international organizations on the effects of the use of armaments and ammunitions containing depleted uranium.

The Netherlands recognizes the need for additional research on the effects of the use of armaments and ammunitions containing depleted uranium and appreciates the fact that this issue is being discussed in the forum of the United Nations. However, the Assembly's reference in the resolution to the "potential" harmful effects of the use of depleted uranium munitions on human health and the environment cannot thus far be substantiated by scientific studies conducted by relevant international organizations, such as the World Health Organization.

The Dutch armed forces do not use munitions containing depleted uranium. In the context of multinational missions, however, it is not impossible that Dutch service personnel may operate in areas in which munitions containing depleted uranium are being or have been used by allies. The health and well-being of Dutch soldiers deployed on international missions is under the continuous scrutiny of the Dutch Government. Exposure to hazardous materials must be avoided to the greatest possible extent.

Serbia

[Original: English]
[26 June 2012]

Depleted uranium munitions: estimate of possible effects upon the Republic of Serbia

Depleted uranium munitions were used during North Atlantic Treaty Organization (NATO) air strikes on the territory of the former Federal Republic of Yugoslavia in 1999. According to the information released by NATO, 30-mm calibre projectiles had been used, each containing 273 gr. of depleted uranium. In the air campaign, 31,000 projectiles, or 51,000, according to the then Army of the Federal Republic of Yugoslavia, were fired against targets on the ground. Projectiles were used in 112 locations in the southern Serbian province of Kosovo and Metohija and in 7 locations outside of Kosovo and Metohija, in the territories of the municipalities of Vranje, Bujanovac and Presevo. This resulted in long-term

radioactive contamination, threatening human life, flora and fauna and the environment in general, not only at the affected sites, but also further afield.

On several occasions, those locations were subject to the testing of environmental samples and projectile composition. Examination of the depleted uranium munitions found at the said locations has shown that, in addition to depleted uranium, they also contained traces of uranium-236, plutonium and neptunium, as well as highly radiotoxic isotopes originating from radiated nuclear fuel. Upon examination of the condition of projectiles at different locations several years after they had been fired, it was established that the level of their corrosion depended very much on the geochemical characteristics of the terrain where they had been found. No larger depleted uranium migration through soil has been detected.

The analysis of samples taken from the environment (air, soil, water, vegetation and bioindicators) has indicated that the contamination of the affected locations is predominantly of a local nature. The projectiles that missed a solid target have remained on the surface or have been buried deep in the ground. If a depleted uranium projectile has remained on the ground surface, there is a risk of direct contact with it or parts thereof. The analysis of bioindicators (moss and lichens) has shown that those projectiles that hit a solid target have created uranium aerosols, which could have been moved further, depending on weather conditions. The danger of inhaling these aerosols poses the most serious risk to the health of those people who were exposed to them during the air raids. Inhalation of uranium oxide aerosols may have immediate or delayed health effects. There is also a danger with water ingestion if the projectiles lodged in the ground obstruct underground water flows, which was not the case in Serbia. It is likely that all depleted uranium munitions have not been found and removed, because after a certain number of years it is impossible to identify their precise location by dosimetric means. The presence of depleted uranium was detected in the air during the rehabilitation of the contaminated areas, and was attributed to soil resuspension.

Activities aimed at determining radionuclide presence in the environment at locations affected by depleted uranium are still under way within the framework of the programme of systematic environmental radioactivity testing in the Republic of Serbia. According to the results of lab analysis of the samples taken (during the initial and subsequent radiological surveys), and considering the defined level of allowed radioactive soil contamination, the definitive limits of radioactive contamination have been set for each location. The level of 200 Bq per kg of uranium content, both natural and depleted, existing in isotope 235 in the upper layers of soil has been adopted as the allowed level of radioactive contamination.

At land sites inside the Republic of Serbia depleted uranium munitions had been lodged deep in the ground, so that the already then effective soil rehabilitation implied an engineering method of detailed excavations by construction machinery. All these sites were tested for any changes in surface radioactive soil contamination.

Risks to the population

All contaminated locations were duly marked by off-limit signs without delay, followed by soil rehabilitation, depending on the level of contamination and potential risk to the population. In addition to the health of the populations living close to the contaminated areas, the health of the population of remote areas will

have to be watched because of the possibility of uranium aerosols spreading up to 40 kilometres in diameter.

There is a clear trend of increased incidence of malignant diseases, especially in southern Serbia, although the incidence of many of them has significantly decreased in member countries of the European Union. Very often, such diseases occur at a young age, progress very rapidly and are detected only when well advanced. Even though the incidence of malignant diseases may, in theory, be explained by the presence of depleted uranium or prior exposure to it, owing to the lack of adequate equipment it was not possible to prove the internal contamination of patients. Nor was it possible to prove the statistical relevance of the cause-effect link, because of the comparatively small number of tested inhabitants.

The figures provided by the reference cytogenetic laboratory of the Vinca Institute of Nuclear Science suggest that the incidence of micronuclei (showing the genome stability in populations) among the Belgrade population following the NATO bombings increased from 9±3MNI/1,000BN before 1999 to 28: i: 3MNI/1,000BN for women. In comparison, it increased from 7: i: 2MNI/1,000BN before 1999 to 24: i: 3MNI/1,000BN for men in the same period between 1999 and 2000. It is estimated that this discrepancy may be due to pollution of the environment by chemicals as a result of an air campaign.

Analysis of test results revealed a steep rise in the incidence of congenital anomalies after the air strikes, whereas with regard to endocrine and malignant diseases, the change was of no statistical relevance. The Q00-Q99 types of anomalies analysed proved to be by and large congenital. In most cases, the anomalies are foot deformities: 52.04 per cent in 2000; 67.86 per cent in 2001; 51.02 per cent in 2002; 44.44 per cent in 2003 and 38.09 per cent in 2004, as also reflected in professional publications.

In 2002 there was a noticeable rise in congenital blood diseases; ventricular septal defects were diagnosed in 14.28 per cent of the cases, while normally 0.8 per cent of newborn babies have some kind of a congenital heart defect. Chromosome anomalies or abnormalities accounted for 5.54 per cent of all congenital anomalies in 2003. Of the 356 children born in 2002 to parents who were military personnel treated at the Military Medical Academy Hospital in Belgrade, 2 suffered from acute non-lymphoblastic leukemia.

III. Replies received from agencies and organs of the United Nations system

International Atomic Energy Agency

[Original: English]
[5 July 2012]

In 2008 and 2010, the International Atomic Energy Agency (IAEA) reported to the General Assembly providing information on the radiological properties of depleted uranium and the possible radiological consequences to the local populations and the environment in areas where it was utilized in conventional anti-tank munitions (reports included in A/63/170 and A/65/129).

IAEA noted in those reports that, subsequent to the request received from the affected States to assess the consequences of post-conflict depleted uranium residues in the environment, and in relation to its statutory functions, IAEA performed a number of assessments of radiological impacts in cooperation with the United Nations Environment Programme (UNEP) and the World Health Organization (WHO). Those studies were based on environmental sampling campaigns, laboratory analysis of the environmental samples and radiological assessments based on defined radiation exposure scenarios performed by international experts. In all cases, IAEA concluded that, in general, the existence of depleted uranium residues dispersed in the environment in the manner they were observed during the monitoring campaigns did not pose a radiological hazard to the local populations. The estimated annual exposures that could arise in the areas where dispersed residues exist would be in the order of a few microsieverts, that is, well below the annual dose received by the population worldwide due to natural sources of radiation in the environment, and far below the reference level recommended by IAEA as a radiological criterion for considering the necessity for remedial actions.

The studies stressed that the presence of large fragments or complete depleted uranium munitions could result in exposures of radiological significance to individuals who are in direct contact with those materials. The advice given in this case was to identify and restrict access to the locations where such fragments or complete munitions could be found (i.e. normally in the same locations where affected war equipment remains). IAEA provided the results and recommendations of these studies to the national authorities in the affected regions with the competence to carry out further surveys and monitoring activities, where applicable. IAEA stated that the studies dealt exclusively with civilian inhabitants and that the results and conclusions were valid at the time that the assessments were carried out and, when possible under certain circumstances, prospectively.

IAEA reiterates that, in all the cases where the Agency was involved, the radiological risk to the public and the environment from the localized contamination of territories, observed by means of environmental survey campaigns, was not significant and can be controlled with simple countermeasures conducted by national authorities. Nevertheless, it was also observed that in a post-conflict environment, the presence of depleted uranium residues further increases the anxiety of local populations. Finally, the results of the radiological evaluations conducted by IAEA, in cooperation with UNEP and WHO, provided a basis for public reassurance in all of the countries concerned.

United Nations Environment Programme

[Original: English]
[2 June 2012]

The United Nations Scientific Committee on the Effects of Atomic Radiation, as part of its current programme of work, is conducting a comprehensive review of the latest information in the scientific literature on the effects on humans of internal exposure due to inhalation and/or ingestion of uranium. It will cover natural uranium, enriched uranium and depleted uranium. The review is limited primarily to the radiological effects, although clearly the chemical toxicity effects are important

for human health (and especially so for depleted uranium). The review is expected to be completed for publication in 2014. Depleted uranium is primarily a chemical, rather than a radiological, hazard.

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Item 70 (b) of the provisional agenda*
Human rights questions, including alternative approaches for improving the effective enjoyment of human rights and fundamental freedoms

Report of the Working Group on the Right to Development on its thirteenth session (Geneva, 7-11 May 2012)

Note by the Secretariat

The General Assembly, in its resolution 66/155 entitled "The right to development", invited the Chair-Rapporteur of the Working Group on the Right to Development of the Human Rights Council to present a verbal update to the Assembly at its sixty-seventh session. In this context, the present note draws the attention of the Assembly to the report of the Working Group on its thirteenth session, held in Geneva from 7 to 11 May 2012, contained in document A/HRC/21/19.

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